HOST RECORDS (FAMILY ASCLEPIADACEAE) FOR *EUPLOEA CORE CORINNA* (W.S. MACLEAY) (LEPIDOPTERA: NYMPHALIDAE)

Paul I. Forster

Queensland Herbarium, Meiers Road, Indooroopilly, Qld, 4068

Abstract

Ceropegia cumingiana Decne., *Gunnessia pepo* P. Forster, *Gymnanthera fruticosa* K.L. Wilson, *Gymnema geminatum*, R. Br., *G. micradenium* Benth., *Hoya cumingiana* Decne., *Hoya oligotricha* subsp. *tenuipes* K. Hill, *Marsdenia hemiptera* Rchb., *M. viridiflora* subsp. nov. and *Tylophora* sp. nov. are recorded as host plants for *Euploea core corinna*. Host plant records for this butterfly in the Asclepiadaceae are summarised.

Introduction

The Asclepiadaceae are important as hosts for larvae of the Nymphalidae with 40 species having recorded hosts in the family (Ackery and Vane-Wright, 1984). The Australian crow or oleander butterfly *Euploea core corinna* is a common butterfly in eastern Australia and has had a number of Asclepiadaceae previously listed as hosts (Ackery and Vane-Wright, 1984; Scheermeyer and Zalucki, 1985; Forster, 1987, 1989).

Observations

From observations on plants in cultivation or in habitat, a number of instances of oviposition, feeding and pupation of *E. c. corinna* were recorded. Previous host records in the Asclepiadaceae are summarized in Table 1. Voucher plant specimens have been deposited at the Queensland Herbarium.

New Host Plants

1. *Ceropegia cumingiana* Decne.: Cultivated plants (ex McIlwraith Range, Qld, Voucher: Liddle s.n.) at St. Lucia. Larval feeding (V instar) observed, March 1989.

2. *Gunnessia pepo* P. Forster: Cultivated plants (ex Lake Patricia, Weipa, Qld, Voucher: Forster & Liddle 4076) at St. Lucia. Oviposition, feeding and pupation to adults observed, February 1989.

3. *Gymnanthera fruticosa* K.L. Wilson: Cultivated plants (ex central Australia, Voucher: Forster 6208) at Sherwood. Oviposition, feeding and pupation to adults observed, January 1990.

4. *Gymnema geminatum* R. Br.: Wild plants (Voucher: Forster 6536) at Chillagoe. One female observed ovipositing (6 March 1990), no live larvae observed.

5. *Gymnema micradenium* Benth.: Cultivated plants (ex Newman's Lookout Scrub, voucher not kept) at Rainworth. Larval feeding (V instar) observed, February, 1989.

6. *Hoya cumingiana* Decne.: Cultivated plants (ex Philippines, Voucher: Cumming 1702) at Strathpine. Larval feeding (V instar) observed, February 1989.

7. *Hoya oligotricha* K. Hill subsp. *tenuipes* K. Hill: Cultivated plants (ex Charmillin Ck, 12 km SSW of Ravenshoe. Voucher: Lockyer sub. Forster 2380) at Rainworth. Oviposition, feeding and pupation to adults observed, 1989-1990.

8. *Marsdenia hemiptera* Rchb.: Cultivated plants (ex near Ginger Mick's Mine, 2 km S of Punsand Bay, Qld. Voucher: Forster & Liddle 4445) at St Lucia. Oviposition, feeding and pupation to adults observed, March 1989.

9. *Marsdenia viridiflora* R. Br. subsp. nov. This undescribed subspecies occurs in tropical northern Australia and is primarily a plant of open woodland although it may occasionally occur in vine thickets. Ovipositing females and II instar larvae were observed on wild plants at Chillagoe (6 March 1990). (Voucher: Forster 6533). *M. viridiflora* R.Br. subsp. *viridiflora* has previously been recorded as a host for this butterfly (Forster, 1989).

10. *Tylophora* sp. nov.: Cultivated plants (ex Herberton area, Voucher: Forster 3947) at St. Lucia. Larval feeding (IV and V instar) observed, March 1989.

Discussion

The species of Asclepiadaceae recorded as new hosts for *E. c. corinna*, with the exception of *H. cumingiana* (from the Philippines), all grow within the known distribution range of the butterfly (Common and Waterhouse, 1981).

Several of the hosts for this butterfly, notably the *Asclepias* and *Gomphocarpus* spp. and perhaps the *Calotropis* spp. are unsuitable for full development from egg to adult (Rahman et al. 1984, Kitching and Zalucki 1983), and although some taxa such as *A. curassavica* and *G. fruticosus* are widespread in eastern Australia their contribution to the population dynamics of this butterfly are uncertain. Certainly *E. c. corinna* may visit plants of *A. fruticosa* quite frequently, but this seems on most occasions to be primarily for nectar, although some individuals have been observed to rest on young pods and may perhaps obtain chemicals from them (M. Zalucki, personal communication 1989).

The Australian Asclepiadaceae suitable as hosts (Table 1), represent less than one quarter of the taxa in this family that occur in the country. While it would appear that some taxa are not suitable, at least in terms of unattractiveness for oviposition or larval feeding, it can be expected that further taxa of this family are suitable as hosts.

Table 1. Hosts in the family Asclepiadaceae for *Euploea core corinna*.
* indicates native Australian taxa.

HOST	SOURCE
Asclepias curassavica L.	1
Asclepias spp.	2
(inferred to be *Gomphocarpus fruticosa* and *Asclepias curassavica*)	
**Brachystelma glabriflorum* (F. Muell.) Schltr.	3
(as *B. microstemma*)	
Calotropis gigantea (L.) W.T. Aiton	1
**Ceropegia cumingiana* Decne.	4
Cryptostegia grandiflora Roxb. ex R. Br.	2
C. madagascariensis Bojer ex Decne.	2
**Cynanchum carnosum* (R. Br.) Schltr.	5
(as *Ischnostemma carnosum*)	
Gomphocarpus fruticosus (L.) W.T. Aiton	1
(as *G. physocarpus*)	
**Gymnanthera fruticosa* K.L. Wilson	4
**G. nitida* R. Br.	5
**Gymnema geminatum* R. Br.	4
**G. micradenium* Benth.	4
**Gunnessia pepo* P. Forster	4
Hoya archboldiana C. Norman	3
**H. australis* R. Br. subsp. *australis*	6,3
**H. australis* subsp. *sanae* (Bailey) K. Hill	3
H. carnosa (L. f.) R. Br	3
H. cumingiana Decne.	4
**H. oligotricha* K. Hill subsp. *tenuipes* K. Hill	4
**H. macgillivrayi* Bailey	3
**Marsdenia australis* (R. Br.) Druce	6, 2
(as *Leichhardtia* or *M. leichhardtiana*)	
**M. coronata* Benth.	7
**M. glandulifera* C. White	7
**M. hemiptera* Rchb.	4
**M. microlepis* Benth.	7
**M. rostrata* R. Br.	7
**M. suaveolens* A. Cunn.	8
**M. viridiflora* R. Br. subsp. *viridiflora*	7
**M. viridiflora* subsp. nov.	4
**Sarcostemma australe* R. Br. subsp. *australe*	5,3
**S. australe* subsp. nov. 1	3
**Sarcostemma* sp. nov. (as *S. australe* subsp. nov. 2)	3
**Secamone elliptica* R. Br.	5
Stephanotis sp.	6
**Tylophora* sp.	4

1 - Ackery and Vane-Wright 1984; 2 - Common and Waterhouse 1981; 3 - Forster 1987; 4 - this paper; 5 - Sankowsky 1975; 6 - D'Abrera; 7 - Forster 1989; 8 - Musgrave 1948.

Given the preponderance of certain genera in the list already recorded, it could be predicted that further hosts will be found in *Marsdenia* R.Br. which has nearly 30 species in Australia and perhaps in *Tylophora* which has 11 species in Australia.

Acknowledgements

Plants used in this study were collected on trips undertaken in conjunction with L.H. Bird, P.D. Bostock, R.A. Harvey, G. Kenning, D.J. Liddle and M.C. Tucker. The author benefited from various conversations on the subject with M.P. Zalucki. All are gratefully acknowledged.

References

ACKERY, P.R. and VANE-WRIGHT, R.I. 1984. *Milkweed butterflies, their cladistics and biology.* British Museum (Natural History), London.

COMMON, I.F.B. and WATERHOUSE, D.F. 1981. *Butterflies of Australia.* Pp. xiv + 682. Angus and Robertson, Sydney.

D'ABRERA, B. 1971. *Butterflies of the Australian region.* Pp. 415. Lansdowne, Melbourne.

FORSTER, P.I. 1987. New host records for *Euploea core corinna* (Macleay) (Nymphalidae). *Journal of the Lepidopterists' Society* **40:** 354-355.

FORSTER, P.I. 1989. New host records (Family Asclepiadaceae) for *Euploea core corinna* (W.S. Macleay) (Lepidoptera: Nymphalidae) in Queensland. *Australian Entomological Magazine* **16:** 79-80.

KITCHING, R.L. and ZALUCKI, M.P. 1983. A cautionary note on the use of oviposition records as larval food plant records. *Australian Entomological Magazine* **10:** 64-66.

MUSGRAVE, A. 1948. Some butterflies of Australia and the Pacific. Family Danaidae - danaids. *Australian Museum Magazine* **9:** 270-275, 309-314.

RAHMAN, H.U., ZALUCKI, M.P. and SCHEERMEYER, E. 1984. The effect of host plant on the development and survival of the immature stages of *Euploea core corinna* (Lepidoptera: Nymphalidae). *Journal of the Australian Entomological Society* **24:** 95-98.

SANKOWSKY, G. 1975. Some new food plants for various Queensland butterflies. *Australian Entomological Magazine* **2:** 55-56.

SCHEERMEYER, E. and ZALUCKI, M.P. 1985. Food plant records of *Euploea core corinna* (W.S. Macleay) with some notes on larval coloration. *Australian Entomological Magazine* **11:** 87-90.